

Remarks

Before entrance of the present Amendment, claims 1-31 were pending in the present application and currently stand rejected by the Examiner.

Claim 1 has been amended in this Response, and new claim 112 has been added. Support for new claim 112 can be found in original claim 1 which stated that the biomolecule could be *optionally* hydroxylated. The language “optionally hydroxylated” has been removed in new claim 112. The specification also states that the biomolecule may be *optionally* hydroxylated thus implying that in certain embodiments the biomolecule is not necessarily hydroxylated but rather is used “as is.” The specification at page 17, lines 15-29, and at page 18, lines 12-19, also provides explicit support for new claim 112. Applicant submits that no new matter is added to the application by the present Amendment.

Applicant respectfully requests reexamination and reconsideration of the case based on the amended claims. Each of the rejections levied in the Office Action is addressed individually below.

I. Rejection under 35 U.S.C. § 103, as being unpatentable over Gunatillake *et al.*, *European Cells and Materials* 2003 and Boyce *et al.*, U.S. Patent 6,123,731. Claims 1-31 have been rejected by the Examiner under § 103 as being unpatentable over Gunatillake *et al.*, *European Cells and Materials* 5:1-16, 2003 and Boyce *et al.*, U.S. Patent 6,123,731. The Examiner states that Gunatillake *et al.* teaches the use of polyurethanes in tissue engineering, and that Boyce *et al.* teaches the combination of bone with bioabsorbable polymers such as polyurethane. The Examiner maintains that the combination of these two reference renders obvious the claimed invention. Applicant disagrees because nothing in either reference teaches the use of a polyurethane made from a biomolecule in a composite as claimed. Furthermore, neither reference teaches the use of a “hydroxylated biomolecule” to form a polyurethane.

Gunatillake *et al.* is nothing more than an article that reviews the many different biodegradable synthetic polymers for use in tissue engineering. Among these polymers is listed polyurethanes. But nowhere does Gunatillake *et al.* mention the use of “a hydroxylated biomolecule” to form a biodegradable polyurethane polymer. In fact, Gantillake *et al.* does not

mention the use of a biomolecule that has been hydroxylated or a biomolecule that already has a sufficient number of hydroxyl groups to form a polyurethane.

Boyce *et al.* only mentions polyurethanes in passing (col. 4, lines 39) and also does not mention the use of a biomolecule to form a biodegradable polyurethane polymer. Therefore, neither reference teaches the type of polyurethane used in the claimed invention, that is, a polyurethane made using a biomolecule. Without a teaching of this aspect of the claimed invention, even a combination of the two references cannot render the claimed invention obvious because a *prima facie* case of obviousness has not been established by the Examiner. Applicant, therefore, requests that the rejection be removed.

In view of the forgoing arguments, Applicant respectfully submits that the present case is now in condition for allowance. A Notice to that effect is requested.

Please charge any fees that may be required for the processing of this Response, or credit any overpayments, to our Deposit Account No. 03-1721.

Respectfully submitted,

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